

TWO NEW SPECIES OF LACEBUGS FROM INDIA (HEMIPTERA: TINGIDAE)

Carl J. Drake¹ and David Livingstone²

The present paper characterizes a new species of the lacebug genus *Tingis* Fabricius and another of *Monosteira* Costa from India. In the structural measurements, 80 units equal 1 millimeter. The holotypes are in the Drake Collection (USNM). The illustration was drawn by Miss Lisa Biganoli, Washington, D. C. This study and others in progress are supported in part by a grant from the National Science Foundation (GB-791).

Tingis agrana, sp. nov.

Obovate, grayish testaceous, with a small spot at each juncture of the transverse vein of costal area and outer marginal vein of elytron plus some veinlets in paranotum opposite humeral angle blackish; pronotal disc and head dark reddish brown; body beneath dark brown, the pronotal sterna and pleura blackish. Antennae blackish fuscous with third segment brown. Legs blackish fuscous with tips of femora, tibiae, and base of tarsi brown. Entire dorsal surface rather thickly clothed with fine, recumbent, yellowish or whitish pubescent hairs, the head and forepart of pronotum with some whitish exudate; body beneath sparsely clothed with short pale hairs. Antennae and legs with short, pale, setose hairs. Length 3.25 mm., width (across middle of elytra) 1.50 mm.

Head very short, little produced in front of eyes, sharply declivent in front, armed with five short pale spines; bucculae areolate, closed or nearly closed in front. Labium brownish, extending to base of mesosternum; laminae of rostral sulcus low, areolate, divergent posteriorly, open at base. Antennae rather short, moderately slender, measurements: segment I, 0.20 mm.; II, 0.15 mm.; III, 0.80 mm.; IV, 0.50 mm. Legs rather short, femora slightly swollen. Hypocostal lamina composed of one row of quadrate areolae.

Pronotum broad, coarsely pitted, moderately convex, areolate on triangular projection, tricarinate; all carinae long, raised, each composed of one row of fairly large areolae; lateral carinae not quite as high as median, slightly concave within in front of middle of disc; hood moderately large, almost quadrate in outline, extending backwards on forepart of pronotal disc, feebly produced in front, dorsal surface obtusely tectiform; paranotum wide, long, reflexed upward, triseriate opposite humeral angle, then biseriate anteriorly.

Elytra with sutural areas overlapping each other so as to rest in repose jointly rounded behind, scarcely wider at widest point than

1. Smithsonian Institution, Washington, D.C.

2. St. John's College, Agra, India.

width across humeral angles of pronotum; costal area biseriata, areolae irregular in form and arrangement; subcostal area biseriata, areolae arranged in regular rows; discoidal area very large, three-fourths as long as elytron, acutely angulate at each end, five or six areolae deep at widest point near middle. Wings almost as long as elytra, slightly clouded with fuscous.

HOLOTYPE (male) and ALLOTYPE (female), both macropterous, Agra, India, September, 1960.

The wider paranota, obovate form, and shorter appendages separate this species from other hairy members of the genus in the Orient.

Monosteira edeia, sp. nov.

Figure 1

Monosteira minutula (not Montandon): Livingstone, Agra Univ. Journ. Research (Sci.), vol. 11, pp. 117-129, figs. 1-10 (biology and morphology).

Small, testaceous to brownish testaceous with pronotal disc blackish fuscous in male and usually dark stramineous in female; front row of areolae on collar and flap of each paranotum opposite its respective callus testaceous; body beneath reddish brown with sternum black. Appendages testaceous with tips of tarsi and fourth antennal segments brownish. Length 1.80 mm., width (elytra) 0.60 mm.

Head very short, feebly extended in front of eyes, armed above with five short spines, the hind pair appressed and longer than the others; bucculae wide, areolate, closed in front. Labium extending to middle of mesosternum; laminae of rostral sulcus present on all three sternal divisions of pronotum, low on prosternum, open behind. Hypocostal laminae biseriata from base to beyond middle, thence posteriorly uniseriate. Antennae inconspicuously pubescent, segment IV subfusiform, measurements: segment I, 0.07 mm.; II, 0.06 mm.; III, 0.28 mm.; IV, 0.15 mm.

Pronotum moderately convex, punctate, unicarinate, backward projection of hind margin areolate; median carina percurrent, present even on collar, finely areolate, the areolae slightly larger on pronotal disc and backward projection of hind margin; collar narrow, areolate, truncate in front; paranota narrow, long, cariniform, each composed of a single row of tiny areolae from the base behind humeral angle to callus, then opposite callus suddenly expanded, flaplike and in there two or three areolae deep.

Elytra not much wider than transhumeral width, longer than abdomen; costal area narrow, composed of one row of areolae; subcostal area wider, sloping sharply downward, four areolae deep in widest part; discoidal area about five-sevenths as long as elytra, divided behind the middle by a crossvein, with hinder part shorter than forepart and concavely extended outward into subcostal area

(fig. 1); sutural area wide, overlapping other elytron in resting posture. Hind wings not much shorter than elytra, functional, whitish opaque. Legs rather short, femora slightly swollen.

HOLOTYPE (male) and ALLOTYPE (female), both macropterous, Agra, India, May 1962, on *Ziziphus jujuba*, in Drake Collection (USNM). PARATYPES, numerous specimens. taken in same locality and on same food plant as type, Agra, March to October 1962-1963.

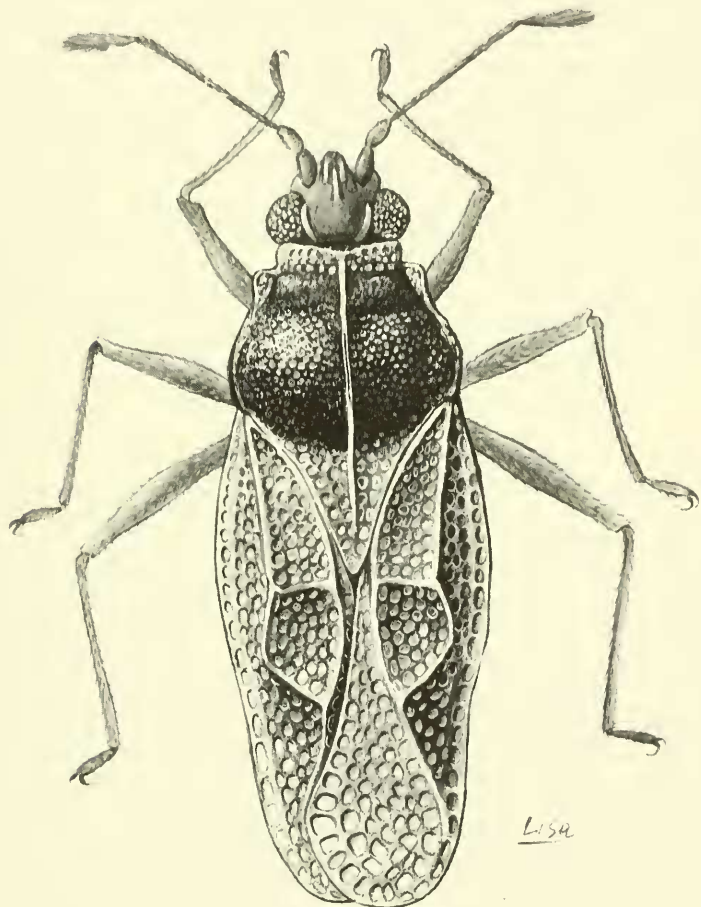


Figure 1. *Monosteira edeia*, sp. nov.

This species is the same size and very similar in general aspect to the Palaearctic *M. minutula* Montandon and *M. priesneri* Wagner, but can be separated at once from either of them by the

long, narrow, keel-like, unicarinate paranota, each of which is suddenly expanded and auriculate opposite the callus and there two or three areolae deep. This is the only member of the genus known to occur in Asia. A macropterous paratype is figured.